Soundharya Lahari Uppula

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PROFESSIONAL SUMMARY

Automotive professional with hands-on experience in ECU Validation using CAPL scripting and Vector CANoe tools. Proficient in UDS diagnostic services, CAN and Ethernet communication protocols, and real-time testing on both virtual and hardware-in-the-loop setups. Skilled in developing and automating test cases for Infotainment, ADAS, and Body Control Modules to ensure compliance with automotive industry standards like ISO 26262, ISO/SAE 21434, ISO 14229 and ASPICE. Experienced in MULTI CG, RBS, In-vehicle message authentication, and test report generation with full requirements traceability. Demonstrated ability in debugging, issue analysis, and improving test automation processes to enhance software quality and safety. Seeking opportunities to grow as a domain expert in next-gen automotive technologies.

SKILLS

SDLC: Requirements | Test Case Design | Implementation | Unit Test | Component Test | Integration Test | Functional Test | HIL Test | Static Analysis.
Framework: ASPICE | AUTOSAR.
Programming Languages: CAPL Scripting | Python.
Simulation & Testing: Virtual & Real Bench Testing | Test Automation | ECU Validation.
Tools: Vector CANoe | MULTI CG | RBS | INI Generator.
Protocols: CAN | UDS | Ethernet | SOME/IP.
Automotive Technologies: Diagnostic Communication | In-Vehicle Message Authentication | Automotive Diagnostics.
Project Management: Jira | Microsoft Excel | SharePoint.

WORK EXPERIENCE (4.2 Years)

TATA Consultancy Services Ltd (Bangalore, India)

Developer **July 2022 – July 2025**

- Worked as Developer on Vector CANoe-based test tools called MutiCG Tester and RBS (Rest Bus Simulation) for **General Motors** clients.
- Developed and maintained CAPL test cases for **UDS diagnostic services, physical layer CAN communication,** and **Infrastructure Diagnostics** to ensure comprehensive ECU validation.
- Executed test case validation across **VIP and SDV platforms**, identifying and resolving errors to meet customer requirements and enhance test accuracy.
- Designed and executed diagnostic test cases aligned with **ISO 14229 (UDS)** to validate services.
- Validated ECU compliance with SAE **J1979-2** (OBDonUDS) and **J1979-3** (ZEVonUDS), including core **diagnostic services**, through automated OBD diagnostic testing.
- Ensured **100% ASPICE compliance** through traceability in all testing and validation phases.
- Had hands-on experience with CAPL and **Vector CANoe** framework for CAN and Ethernet configurations.
- **Created Rest Bus Simulation** to simulate received messages of the Electronic Control Unit.
- Utilized **MultiCG, RBS, and INI Generator** tools for effective test execution, simulation of ECU communication, and updating test configurations across multiple automotive platforms.
- Achieved **95% test coverage** through unit testing and integration testing using Vector tools.
- Led configuration and setup of **component-level hardware** for CAN and Ethernet interfaces, enhancing test fidelity in real and virtual test benches.

- Worked on automation of In-Vehicle Message Authentication requirements, ensuring compliance with **ISO/SAE 21434.**
- Developed and updated test cases using **CAPL scripting** to meet evolving customer requirements, enhancing test coverage and functionality.
- **Validated** scripts for **Infotainment, ADAS, and Body Control Module** using CAN and Ethernet frameworks.
- Generated reports from CAPL scripts and validated them against system requirements.
- Improved test efficiency by **80%** and reduced defects by **30–35%** through proactive root cause analysis and early issue detection in the **V-model cycle**.
- Delivered solutions compliant with **ISO 26262 functional safety** standards for automotive systems.
- Debugged and resolved tool issues raised by suppliers.

System Engineer **June 2021 - June 2022**

- Administered Device42, Morpheus Data, and SCOM to ensure efficient provisioning and automation of cloud infrastructure, improving system reliability and monitoring capabilities.
- Automated VM provisioning and workflows using Python and PostgreSQL, reducing manual intervention, and increasing deployment speed.
- Developed custom scripts using SQL and Shell scripting to troubleshoot and optimize system configurations, enhancing operational efficiency.

ACHIEVEMENTS

Customer Appreciation - Received Customer Appreciation for showcasing exceptional skills and expertise in project.
Acknowledged by Team Leader- For developing CAPL test cases for newly introduced UDS diagnostic services, enabling early detection of defects and enhancing diagnostic validation quality.
Commended by Project Manager - Honored for training engineers on automotive development and testing.

CERTIFICATIONS

ADAS ECU Simulation and Testing – ANCIT | AUTOSAR Architecture – Udemy

EDUCATION

- B.Tech in Electronics and Communication Engineering, GITAM University, Hyderabad – 75.5% **June 2021**
- Intermediate (MPC), Sri Chaitanya Junior College, Hyderabad – 90.1% **March 2017**
- SSC, Paramita High School, Karimnagar – 9.0 GPA **March 2015**

PERSONALITY

Adaptable | Collaborative | Proactive | Resilient | Time Management | Analytical | Problem Solver

INTERESTS

Writing | Reading | Travelling